

What is claimed is:

1. A mobile device capable of supporting packet data services offered by wireless networks, the mobile device comprising:

5 a transceiver for exchanging packet data service authentication information with the wireless networks;

a memory;

a current blacklist provided in the memory, the current blacklist identifying wireless networks that do not provide packet data services to the mobile device, the
10 current blacklist being based on previous packet data service authentication rejections; and

a processor for updating the current blacklist in response to newly received packet data service authentication information.

15 2. The mobile device of claim 1 wherein the current blacklist includes an element selected from the group consisting of: a system identifier and network identifier for each wireless network not providing packet data services to the mobile device; a timer value for each wireless network not providing packet data services to the mobile device; an age timer for each wireless network not providing packet data services to the mobile device;
20 and a flag indicating whether an identification of a blacklisted wireless network has been passed to a server.

3. The mobile device of claim 1 wherein the current blacklist includes a composite current blacklist received from a server.

25 4. A method of data service discovery for a mobile device having a current blacklist comprising:

detecting a wireless network;

examining the current blacklist stored on the mobile device;

30 if the detected wireless network is listed in the current blacklist, refraining from making any packet data call attempts for a predetermined period of time; and

otherwise, determining whether the wireless network provides packet data services to the mobile device, and adding the wireless network to the current blacklist if the

wireless network does not provide packet data services to the mobile device.

5. The method of claim 4 further comprising, prior to the step of checking, the step of determining whether the wireless network supports data service.

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6. The method of claim 4 wherein the step of determining whether the wireless network provides packet data services to the mobile device comprises the step of authenticating the mobile device on the wireless network.

10 7. The method of claim 4 further comprising a step selected from the group consisting of: starting an age timer associated with a wireless network that is added to the current
7. blacklist; clearing an age timer associated with a wireless network in response to satisfaction of a reset condition; notifying a server of a newly blacklisted wireless network; and receiving a composite current blacklist from a server.

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8. The method of claim 4 further comprising the step of clearing the current blacklist in response to a provisioning reset condition.

9. The method of claim 4 further comprising a step selected from the group consisting
20 of: sending a notification to the server if a mobile device finds a wireless network which was not previously providing packet data services to the mobile device and is now providing packet data services to the mobile device; and sending a notification from the server to other mobile devices to clear the entry of a wireless network which was previously not providing packet data services but currently is providing packet data
25 services.

10. A method of packet data service notification in a wireless network, the wireless network including a server and a mobile device, the method comprising:
receiving at the server a registration of a newly powered-up mobile device;
30 retrieving a server-stored current blacklist identifying wireless networks that do not provide packet data services to the newly powered-up mobile device; and
sending the server-stored current blacklist from the server to the newly powered-up mobile device for reception by and storage on the mobile device.